

REMARKS/ARGUMENTS

Claims 1, 9, 10, 12-23 and 27-34 have been amended. No claim is cancelled by the current amendment. No new claim has been introduced. Thus claims 1-35 are currently pending.

Claim rejections under 35 U.S.C. § 112

Claims 1-34 stand rejected under 35 U.S.C. § 112 as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant hereby amends claims 1, 9, 10, 12-23 and 27-34 to overcome the indefiniteness rejection.

Regarding point 2.a, in claim 1, “first end” is now specified as “first end of said fixed portion” or “first end of said movable portion”, wherever appropriate. Claim 19 is corrected by stating that a first friction mechanism is near a first end of the fixed portion while a second friction mechanism is near a first end of the movable portion. Because claim 19 ultimately depends on claim 1, in which the proximity of a second end of one portion to a first end of the other portion is defined, a mention of “second ends” in claim 19 was superfluous and has been deleted.

Regarding point 2.b, the terms “first fixed portion abutting surface” and “second fixed portion abutting surface” are now consistently used in claim 1.

Regarding point 2.c, the phrase “said mobile portion” has been changed to “said movable portion” in all instances throughout the claims.

Regarding point 2.d, the dependency of claim 19 has been changed so that it now depends on claim 16, as suggested by the Examiner.

Regarding point 2.e, the phrase “said second portion” in claim 33 has been changed to “said movable portion”.

Additional corrections were made in claim 1, in which “first movable element abutting surface” and “second fixed element abutting surface” had no antecedent. That wording was changed to “first movable portion abutting surface” and “second fixed portion abutting surface”, respectively.

In view of the above described amendments, Applicant respectfully submits that all claims clearly define the subject matter of the present patent application. Withdrawal of the 35 U.S.C. § 112 rejection is kindly requested.

Claim rejections under 35 U.S.C. § 102

Claims 1-2, 6-8, 12-15 and 33-35 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Kondo (US Patent 4,662,133). Applicant respectfully traverses this rejection.

From the MPEP section 2131, “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (...) The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. In *re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990)” (internal quotes omitted).

Kondo fails to teach all limitations of claim 1 and uses an arrangement that differs from that of claim 1.

Specifically, claim 1 recites a brace apparatus to be mounted between two portions of a structure subjected to a loading force to limit movements due to the loading force. The brace apparatus comprises a fixed portion, a movable portion, and a tensionable assembly.

The fixed portion has a first end to be mounted to a portion of the structure. The first end of the fixed portion defines a first fixed portion abutting surface. The fixed portion also has a second end defining a second fixed portion abutting surface.

The movable portion has a first end to be mounted to a portion of the structure. The first end of the movable portion defines a first movable portion abutting surface. The movable portion also has a second end defining a second movable portion abutting surface.

The tensionable assembly mounts the movable portion to the fixed portion so that the first movable portion abutting surface is in proximity of the second fixed portion abutting surface, and so that the first fixed portion abutting surface is in proximity of the second movable portion abutting surface. The tensionable assembly includes a first abutting element in the proximity of the first end of the fixed portion and a second abutting element in the proximity of the first end of the movable portion. The first and second abutting elements are interconnected by an adjustable tensioning element.

When a loading force moves the movable portion away from the fixed portion, the first abutting element abuts the first fixed portion abutting surface and the second abutting element abuts the first movable portion abutting surface to thereby limit the movement of the movable portion away from the fixed portion. When a loading force moves the movable portion towards the fixed portion, the first abutting element abuts the second movable portion abutting surface and the second abutting element abuts the second fixed portion abutting surface to thereby limit the movement of the movable portion towards the fixed portion.

A relationship between components of the claimed brace apparatus is clearly defined in the language of claim 1. For example, the tensionable assembly mounts the movable portion to the fixed portion.

In Kondo, a pair of tension coil springs 54 connects one sliding member 42 to another sliding member 44. The two sliding members 42, 44 are attached to guide members 32, 34, which are fixed to a base plate 30 of a restoring unit 26 or 28, the base plate 30 itself being on the upper surface of a foundation 12. None of the sliding members 42, 44 is fixed because the two sliding members may move relative to Kondo's entire restoring unit 26 or 28. Kondo therefore does not teach "a tensionable assembly mounting said movable portion to said fixed portion".

The tensionable assembly of claim 1 includes two abutting elements. The pair of tension coil springs 54 of Kondo is anchored (abstract, Fig. 4) to both sliding members 42, 44 via screws 56 and nuts 58. There is no abutting element or abutting contact in the coil springs 54. Kondo therefore does not teach “said tensionable assembly including a first abutting element in the proximity of the first end of the fixed portion and a second abutting element in the proximity of the first end of the movable portion”.

In claim 1, depending on a direction of a loading force, moving the movable portion away or towards the fixed portion, abutting elements of the tensionable assembly abut against abutting surfaces of the fixed and movable portions. As explained hereinabove, Kondo does not have a tensionable assembly including abutting elements. Consequently, Kondo does not teach “said first abutting element abuts the first fixed portion abutting surface and said second abutting element abuts the first movable element abutting surface” and also does not teach “said first abutting element abuts the second movable portion abutting surface and said second abutting element abuts the second fixed portion abutting surface”.

Therefore, in view of the above comments, it is submitted that Kondo does not teach several limitations of claim 1. Kondo also does not teach elements arranged as required by claim 1. Applicant respectfully submits that claim 1 is novel in view of Kondo.

Kondo fails to teach all limitations of independent claim 35.

Claim 35 comprises a limitation of “a tensionable assembly including abutting elements in the proximity of said first and second proximity end pairs, said abutting elements being interconnected by a tensioning element” (emphasis added). As explained hereinabove, Kondo does not teach this limitation. Consequently, Kondo also does not teach “such that respective abutting surfaces of said first (or second) opposed end pairs abuts on respective abutting elements”.

Further, Kondo’s spring 54 cannot be compressed. Considering Kondo Fig. 3, the spring 54 is connected to sliding members 42 and 44. As shown, the sliding members 42 and 44 touch stoppers 60 (these stoppers are not numbered on Fig. 3, but are clearly identified on

Figs 1, 2). Due to the stoppers 60, it is not possible for the sliding members 42 and 44 to move closer to one another from their position of Fig. 3. If a force initiates a relative motion of the floor member 14 relative to the 12 foundation 12, the spring 54 becomes stretched by movement of either of the sliding members 42 or 44 away from its stoppers 60. For example, if a force pushes the floor member 14 to the left of Fig. 3, the engaging member 62 (left side) pushes the sliding member 42 to move to the left while the engaging member 62(right side) becomes separated from the projecting wall 48 of the sliding member 44. The spring 54 is never compressed. Therefore, Kondo does not teach or suggest "the loading force applied to said first opposed end pairs (...) compresses said apparatus".

Therefore, in view of the above comments, Applicant respectfully submits that claim 35 is novel in view of Kondo.

Claims 1, 9-11, 15, 16, 18, 19, 21-24, 31 and 35 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Fyfe et al. (US Patent 4,605,106). Applicant respectfully traverses this rejection.

Fyfe fails to teach all limitations of claim 1.

Considering Fyfe at Figure 1, an apparatus as shown provides displacement control in the case of compression acting thereon. In Fyfe, an outer cylinder 1 and an inner cylinder 3 are shown. The Examiner indicates in the Office Action that a rightmost end of the outer cylinder 1, end cap 6, is "a first end defining a first abutting surface (of a fixed portion)" as recited in claim 1. The Office Action then expresses that a rightmost end of the inner cylinder 3, opposite from end cap 5, is "a second end defining second abutting surface (of a movable portion)".

In Fyfe, the inner cylinder 3 is much shorter than the outer cylinder 1. This difference in lengths of the cylinder is not a mere design detail. Fyfe's requires this configuration for insertion of viscoelastic discs 13, solid disc 15, perforated plate 17, and viscous material 19 between a round plate 11, immediately to the right of the inner cylinder 3, and the end cap 6. Consequently, Fyfe does not teach "said first fixed portion abutting surface is in proximity of the second movable portion abutting surface" (emphasis added).

Even when a force pushes end caps 5 and 6 closer to each other, this movement must stop when the end cap 5 meets the left end of the outer cylinder 1. Given the geometry taught by Fyfe, at that time, the rightmost end of the inner cylinder 3 will still be separated by a large space from the end cap 6. In this case as well, the above mentioned limitation of "said first fixed portion abutting surface is in proximity of the second movable portion abutting surface" will still not be met by Fyfe.

Additionally, it may be observed that plates 9 and 11 are welded to the rod 7. There is no indication in Fyfe about any elastic property of the rod 7. The plate 9 may only move to the right, away from the end cap 6, when compression is applied to end cap 5. In case of an eventual tension applied on the apparatus of Fyfe, the plate 9 cannot move towards the left because it is blocked by the end cap 6. Therefore, assuming that a force acts to move apart end caps 5 and 6, the apparatus of Fyfe will oppose no counteracting force and, in an extreme case, nothing will prevent the inner cylinder 3 from coming out of the outer cylinder 1. Consequently, Fyfe does not teach "when a loading force moves the movable portion away from the fixed portion (...) thereby limit the movement of the movable portion away from the fixed portion".

Therefore, in view of the above comments, Applicant respectfully submits that claim 1 is novel in view of Fyfe.

Fyfe fails to teach all limitations of independent claim 35.

Claim 35 comprises a limitation of "first bracing member having a first end mountable to one of the two portions (of a structure) and a second end, each having an abutting surface" (emphasis added). In Fyfe, the outer cylinder 1 does not attach to a structure at its end, at an abutting surface, but at a center of its length, as shown on Figure 3, or along most of its length but not at its end, as shown on Figure 4. The above limitation is thus not met in Fyfe. As explained hereinabove, Fyfe has an inner cylinder 3 whose rightmost extremity remains separated from the rightmost extremity of the outer cylinder 1, at end cap 6. Consequently, Fyfe also does not teach "said first end is in proximity of said third end so as to define a first

proximity end pair and said second end is in proximity of said fourth end so as to define a second proximity end pair". Further, because the plate 11 may never come in proximity to the end cap 5, Fyfe does not teach or suggest "a tensionable assembly including abutting elements in the proximity of said first and second proximity end pairs, said abutting elements being interconnected by a tensioning element" (emphasis added). Finally, as expressed hereinabove, Fyfe's device does not provide any means to oppose any tension force, so the limitation of "whereby said first and second bracing members are movable apart when the loading force applied to said first opposed end pairs i) tensions said apparatus" (emphasis added) is not found in Fyfe.

Therefore, in view of the above comments, Applicant respectfully submits that claim 35 is novel in view of Fyfe.

Claims 1, 25 and 26 stand rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Sridhara (US Patent 7,188,452). Applicant respectfully traverses this rejection.

Sridhara fails to teach all limitations of claim 1.

Sridhara teaches a brace 58 comprising a core rod 50 which further comprises, at both ends, gussets 53 for attaching the brace 58 to a structure. The core rod 50 is within a hollow sleeve 51. A relationship of the sleeve 51 and of the rod 50 is maintained by plates 158, 159, between which a washer 156 and springs 157 are found. On Figure 15a, elements 156-159 form a structure on the left hand side and a similar structure is shown on the right hand side. Grout material 52 is present within the sleeve 51, between the structure 156-159 and the similar structure on the right hand side.

Sridhara's brace 58 is for attaching to a structure at both gussets 53, which are attached to the core rod 50. Both ends of a same element (core rod 50) are thus attached to the structure. Some relative movement between the sleeve 51 and the core rod appear possible. Sridhara however does not teach or hint that the sleeve 51 is for attachment to a structure. Figures 13a-13c actually show that the sleeve does not attach to any structure and that any seismically-induced load in a structure is applied to the brace 58 via the gussets 53. Sridhara therefore does

not teach both “a fixed portion having a first end to be mounted to a portion of the structure” and “a movable portion having a first end to be mounted to a portion of the structure”, as in claim 1.

In Sridhara, Figure 12a provides an embodiment that does not comprise springs. Removing the springs 157 from the brace 58 of Figure 15a would reduce the brace’s functionality, but would not essentially modify the manner in which the core rod 50 and the sleeve 51 are assembled. Consequently, the springs 157 in Sridhara’s Figure 15a do not have the function of “mounting said movable portion to said fixed portion”, as in the case of the tensionable assembly of claim 1 and, as a result, the springs 157 do not have a function “so that a) said first movable portion abutting surface is in proximity of the second fixed portion abutting surface, and b) said first fixed portion abutting surface is in proximity of the second movable portion abutting surface”.

Finally, Sridhara’s structure 156-159, comprising springs, washers and plates, are never in proximity to extremities of the core rod 50, gussets 53, or sleeve 51. Consequently, Sridhara does not teach “said tensionable assembly including a first abutting element in the proximity of the first end of the fixed portion and a second abutting element in the proximity of the first end of the movable portion”.

Therefore, in view of the above comments, Applicant respectfully submits that claim 1 is novel in view of Sridhara.

For those reasons, Applicant respectfully submits that the subject matter of independent claims 1 and 35 is patentable in view of Kondo, Fyfe and Sridhara. Withdrawal of the rejection is kindly requested. Claims 2-24, being dependent on allowable claim 1, should also be found patentable.

Applicant respectfully submits that no new matter has been introduced by way of the present amendment.

In light of the foregoing amendments and remarks, favourable reconsideration and timely allowance is respectfully requested.

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Should the Examiner believe that a phone interview could expedite prosecution of the present application, she is invited to contact the undersigned attorney.

Respectfully submitted,



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